

PUB-NO: DE003901891A1

DOCUMENT-IDENTIFIER: **DE 3901891 A1**

TITLE: Device for measuring and/or
monitoring the strength of
an electrostatic field

PUBN-DATE: July 26, 1990

INVENTOR-INFORMATION:

NAME

COUNTRY

GIESINGER, HANS

CH

ASSIGNEE-INFORMATION:

NAME

COUNTRY

WAGNER INT

CH

APPL-NO: DE03901891

APPL-DATE: January 23, 1989

PRIORITY-DATA: DE03901891A (January 23, 1989)

INT-CL (IPC): B05D001/04, B05D001/14 , G01R029/12

EUR-CL (EPC): G01R029/12 ; B05B005/10

US-CL-CURRENT: 118/665

ABSTRACT:

A device is obtained for measuring and/or monitoring the strength of the electrostatic field between the high-voltage spray electrode of a coating device and the earthed work-piece to be coated, which consists of a parallel circuit comprising a glow-discharge lamp and a capacitor, which circuit is connected to the voltage of the spray electrode or to a voltage proportional thereto, an optical/electrical signal converter, an optical fibre (conductor) which conveys the optical signals from the glow-discharge lamp to the optical input of the signal converter, and an indicator device and/or switching element which is connected to the electrical output of the signal converter.

DERWENT-ACC-NO: 1990-232339

DERWENT-WEEK: 199031

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TITLE: Electrostatic field strength
monitoring for spray coating appts. - uses optical
fibre coupling between indicator light bulb and
opto-electrical signal converter

INVENTOR: GIESINGER, H

PATENT-ASSIGNEE: WAGNER INT AG[WAGNN]

PRIORITY-DATA: 1989DE-3901891 (January 23, 1989)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE
LANGUAGE		MAIN-IPC
<u>DE 3901891 A</u>		July 26, 1990
N/A	000	N/A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-
NO	APPL-DATE	
DE 3901891A	N/A	
1989DE-3901891	January 23, 1989	

INT-CL (IPC): B05D001/04, G01R029/12

ABSTRACTED-PUB-NO: DE 3901891A

BASIC-ABSTRACT:

The electrostatic field strength monitor detects the electrostatic field between a HV spray electrode (14) (12) and the earthed workpiece to be coated. The voltage at the spray electrode (12) or a proportional voltage is applied to a parallel circuit (13) comprising a capacitor (13a) and a light bulb (13b) with the optical signal provided by the latter fed via an optical fibre coupling (14) to an optoelectrical converter (15).

This provides an electrical signal (15a) for a display and/or a switch element and/or a regulator. Pref. the parallel circuit (13) lies between a sensor electrode (16), spaced from the spray electrode (12) and earth.

ADVANTAGE - Eliminates error due to soiling by coating material.

CHOSEN-DRAWING: Dwg.1/2

DERWENT-CLASS: P42 S01 S02 X25

EPI-CODES: S01-D09; S01-H02; S02-K03B; X25-K01;

DERWENT-ACC-NO: 1994-224906

DERWENT-WEEK: 199427

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TITLE: Water-based multi-component
spray painting system - has
alternating segments
functioning in series to additively
provide combined resistance
which electrically blocks HV
potential generated at
electrostatic spray gun

INVENTOR: FEITEL, A

PATENT-ASSIGNEE: FEITEL A[FEITI] , GRACO
INC[GRACN]

PRIORITY-DATA: 1993US-0098801 (July 28, 1993)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE
LANGUAGE		MAIN-IPC
US 5328093 A		July 12, 1994
N/A	014	B05B 005/16
CA 2113861 A		January 29, 1995
N/A	000	B05D 001/04
<u>DE 4405662 A1</u>		February 2, 1995
N/A	021	B05B 005/16
FR 2708215 A1		February 3, 1995
N/A	000	B05B 005/16
GB 2280390 A		February 1, 1995
N/A	033	B05B 005/16

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
	APPL-DATE	
US 5328093A	N/A	
1993US-0098801	July 28, 1993	
CA 2113861A	N/A	
1994CA-2113861	January 20, 1994	
DE 4405662A1	N/A	
1994DE-4405662	February 22, 1994	
FR 2708215A1	N/A	
1994FR-0002038	February 23, 1994	
GB 2280390A	N/A	
1994GB-0002676	February 10, 1994	

INT-CL (IPC): B05B005/08, B05B005/10 ,
B05B005/16 , B05D001/04

ABSTRACTED-PUB-NO: US 5328093A

BASIC-ABSTRACT:

The system includes an electrically isolated electrically less-conductive component fluid-flow course and an electrically-grounded electrically more-conductive component fluid-flow course. The electrically more-conductive component fluid-flow course may be additionally electrically isolated at the preference of an operator.

A mixer is positioned proximal to an electrostatic spray gun, with a conduit holding alternating segments of electrically more-conductive component and electrically less-conductive component. The

alternating segments function in series to additively provide a combined resistance which electrically blocks the high-voltage potential generated at the electrostatic spray gun. This, in turn, effectively isolates the electrically more-conductive component fluid-flow course and electrically less-conductive fluid-flow course from the high-voltage potentials.

ADVANTAGE - Improves the safety of an electrostatic spray gun used with water-based paints, while simultaneously permitting the use of a standard colour change system.

CHOSEN-DRAWING: Dwg.1/3

DERWENT-CLASS: P42 X25

EPI-CODES: X25-K01;

DERWENT-ACC-NO: 1995-294439

DERWENT-WEEK: 199750

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TITLE: Powder mass flow measuring
device - measures speed using
two electrodes to detect
charge variations, and measures
mass using microwave
resonator

INVENTOR: ADAMS, H; SEITZ, K

PATENT-ASSIGNEE: WAGNER INT AG[WAGNN]

PRIORITY-DATA: 1994DE-4406046 (February 24, 1994)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE
LANGUAGE		MAIN-IPC
EP 669522 A2		August 30, 1995
G	008	G01F 001/74
DE 4406046 C2		November 20, 1997
N/A	007	G01F 001/74
DE 4406046 A1		August 31, 1995
N/A	007	G01F 001/74

DESIGNATED-STATES: CH DE DK ES FR GB IT LI NL

CITED-DOCUMENTS: No-SR.Pub

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-
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NO	APPL-DATE
EP 669522A2	N/A
1995EP-0101238	January 30, 1995
DE 4406046C2	N/A
1994DE-4406046	February 24, 1994
DE 4406046A1	N/A
1994DE-4406046	February 24, 1994

INT-CL (IPC): B05D001/06, G01F001/64 ,
 G01F001/708 , G01F001/74 ,
 G01F001/86 , G01P005/08

ABSTRACTED-PUB-NO: EP 669522A

BASIC-ABSTRACT:

A speed measurement arrangement measures the speed of the gas-powder mixture in the supply line. A mass measurement arrangement measures the mass per unit vol. in a section of the supply line. A computer derives the powder mass flow from the measured speed, the measured mass per unit vol. and the dimensions of the supply line.

The speed measurement arrangement has two electrodes arranged at a distance apart along the supply line which detect charge variations on the line caused by the powder-gas mixture, from which the speed is derived. The mass measurement arrangement contains a microwave resonator (36) which detects a change in dielectric constant and/or microwave absorption in a resonant vol. of

the supply line (10) as a change in the microwave amplitude or resonant frequency, from which the quantity of powder in the resonant vol. is derived.

USE/ADVANTAGE - E.g. for electrostatic powder coating systems. For measuring mass flow of powder in gas-powder mixture in supply line. Very accurate, reliable and direct measurement of powder delivery rates is achieved.

CHOSEN-DRAWING: Dwg.3/5

DERWENT-CLASS: P42 S02

EPI-CODES: S02-C01; S02-C01A1; S02⁵-C01B4; S02-C01F;

DERWENT-ACC-NO: 1999-155622

DERWENT-WEEK: 200377

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TITLE: Method for controlling the
extraction equipment of
electrostatic powder coating
plant and an electrostatic
powder coating plant

INVENTOR: ADAMS, H; HASLER, M ; SEITZ, K

PATENT-ASSIGNEE: WAGNER INT AG[WAGNN]

PRIORITY-DATA: 1997DE-1038097 (September 1, 1997)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE
LANGUAGE		MAIN-IPC
DE 59809700 G		October 30, 2003
N/A	000	B05B 015/12
EP 899022 A1		March 3, 1999
G	010	B05B 015/12
DE 19738097 A1		March 4, 1999
N/A	000	B05D 001/02
JP 11128783 A		May 18, 1999
N/A	007	B05B 005/025
DE 19738097 C2		January 27, 2000
N/A	000	B05D 001/02
US 6071348 A		June 6, 2000
N/A	000	B05C 011/10
EP 899022 B1		September 24, 2003
G	000	B05B 015/12

DESIGNATED-STATES: AL AT BE CH CY DE DK ES FI FR GB
GR IE IT LI LT LU LV MC MK
NL PT RO SE SI CH DE FR GB IT LI

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-
NO	APPL-DATE	
DE 59809700G	N/A	
1998DE-0509700	July 21, 1998	
DE 59809700G	N/A	
1998EP-0113601	July 21, 1998	
DE 59809700G	Based on	EP
899022	N/A	
EP 899022A1	N/A	
1998EP-0113601	July 21, 1998	
DE 19738097A1	N/A	
1997DE-1038097	September 1, 1997	
JP 11128783A	N/A	
1998JP-0244956	August 31, 1998	
DE 19738097C2	N/A	
1997DE-1038097	September 1, 1997	
US 6071348A	N/A	
1998US-0144858	September 1, 1998	
EP 899022B1	N/A	
1998EP-0113601	July 21, 1998	

INT-CL (IPC): B05B005/025, B05B012/00 ,
B05B015/12 , B05C011/10 ,
B05D001/02 , B05D001/06 , G01F001/74 ,
G01P005/08

ABSTRACTED-PUB-NO: EP 899022A

BASIC-ABSTRACT:

NOVELTY - The method involves measuring the earth leakage current in the powder discharged from the spray devices (66). The current level is used as a measure for controlling the extraction equipment. Several units may be coupled together for control and measurement over a bus network.

USE - For extracting excess powder while coating irregular metallic work pieces.

ADVANTAGE - Controls the extraction equipment so that it operates with optimum efficiency.

ABSTRACTED-PUB-NO: US 6071348A

EQUIVALENT-ABSTRACTS:

NOVELTY - The method involves measuring the earth leakage current in the powder discharged from the spray devices (66). The current level is used as a measure for controlling the extraction equipment. Several units may be coupled together for control and measurement over a bus network.

USE - For extracting excess powder while coating irregular metallic work pieces.

ADVANTAGE - Controls the extraction equipment so that it operates with optimum efficiency.

CHOSEN-DRAWING: Dwg.0/4

DERWENT-CLASS: P42 W01 W05 X25

EPI-CODES: W01-A06B1; W01-A06B5A; W05-D07B; X25-H09; X25-K05;

PUB-NO: EP001232799A2

DOCUMENT-IDENTIFIER: **EP 1232799 A2**

TITLE: Spraying device with at
least one separating area

PUBN-DATE: August 21, 2002

INVENTOR-INFORMATION:

NAME

COUNTRY

BALLANDIES, REGINE DE

POPPE, SIEGFRIED DE

ASSIGNEE-INFORMATION:

NAME

COUNTRY

DUERR SYSTEMS GMBH DE

APPL-NO: EP02002709

APPL-DATE: February 6, 2002

PRIORITY-DATA: DE10108010A (February 20, 2001)

INT-CL (IPC): B05B013/02

EUR-CL (EPC): B05B005/053 ; B05B012/00

ABSTRACT:

CHG DATE=20030114 STATUS=O> The spray device has at least one separation point (T1,T2,T3) for removal of a part (1,2,3) of the spray device incorporating control or signaling devices (MV,HNS) coupled to incorporated electrical lines (5,5'), with an electrical coupling device (IK) for the latter provided at the separation point. The electrical coupling device uses inductive coils embedded in the cooperating parts of the spray device and aligned with one another when the parts of the spray device are assembled. An Independent claim for a function testing device for a spray device is also included. aim for a function testing

DERWENT-ACC-NO: 2002-592834

DERWENT-WEEK: 200264

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TITLE: Spray device for series
coating of workpieces has
electrical coupling devices
provided by cooperating
inductive coils at separation
points between cooperating
parts of spray device

INVENTOR: BALLANDIES, R; POPPE, S

PATENT-ASSIGNEE: DUERR SYSTEMS GMBH[DUERN]

PRIORITY-DATA: 2001DE-1008010 (February 20, 2001)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE
LANGUAGE		MAIN-IPC
DE 10108010 A1		August 29, 2002
N/A	000	B05B 015/06
<u>EP 1232799 A2</u>		August 21, 2002
G	009	B05B 013/02

DESIGNATED-STATES: AL AT BE CH CY DE DK ES FI FR GB
GR IE IT LI LT LU LV MC MK
NL PT RO SE SI TR

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-
NO	APPL-DATE	

DE 10108010A1	N/A
2001DE-1008010	February 20, 2001
EP 1232799A2	N/A
2002EP-0002709	February 6, 2002

INT-CL (IPC): B05B013/02, B05B015/06

ABSTRACTED-PUB-NO: EP 1232799A

BASIC-ABSTRACT:

NOVELTY - The spray device has at least one separation point (T1,T2,T3) for removal of a part (1,2,3) of the spray device incorporating control or signaling devices (MV,HNS) coupled to incorporated electrical lines (5,5'), with an electrical coupling device (IK) for the latter provided at the separation point. The electrical coupling device uses inductive coils embedded in the cooperating parts of the spray device and aligned with one another when the parts of the spray device are assembled.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM for a function testing device for a spray device is also included.

USE - The spray device is used for series spraying of workpieces, e.g. for spray painting of automobile body components.

ADVANTAGE - The electrical coupling devices are protected from soiling and moisture.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic representation of a spray coating device. (Drawing includes non-English language text).

Spray device parts 1,2,3

Electrical lines 5,5'

Electrical coupling devices IK

Control or signaling devices MV,HNS

Separation points T1,T2,T3

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: P42 X25

EPI-CODES: X25-K09;

PUB-NO: EP001319439A1

DOCUMENT-IDENTIFIER: **EP 1319439 A1**

TITLE: Sensor arrangement for a
part of a coating installation,
said part being subjected to
a high voltage

PUBN-DATE: June 18, 2003

INVENTOR-INFORMATION:

NAME

COUNTRY

DUERR, SYSTEMS GMBH DE

BAUMANN, MICHAEL DE

POPPE, SIEGFRIED DE

YAMABE, HIDETOSHI JP

ASSIGNEE-INFORMATION:

NAME

COUNTRY

DUERR SYSTEMS GMBH DE

APPL-NO: EP02027402

APPL-DATE: December 9, 2002

PRIORITY-DATA: DE10161550A (December 14, 2001)

INT-CL (IPC): B05B005/16, B05B012/14

EUR-CL (EPC): B05B005/16 ; B05B012/14

DERWENT-ACC-NO: 2003-610071

DERWENT-WEEK: 200428

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TITLE: Detection of the position of
components being used in a
coating plant, whereby use of
a magneto-optical sensing
system ensures that
electronics are positioned well away
from high electric fields
associated with coating

INVENTOR: BAUMANN, M; POPPE, S ; YAMABE, H

PATENT-ASSIGNEE: DUERR SYSTEMS GMBH[DUERN] ,
BAUMANN M[BAUMI], POPPE
S[POPPI], YAMABE H[YAMAI]

PRIORITY-DATA: 2001DE-1061550 (December 14, 2001)

PATENT-FAMILY:

PUB-NO		PUB-DATE
LANGUAGE	PAGES	MAIN-IPC
US 20040075848	A1	April 22, 2004
N/A	000	G01B 011/14
<u>EP 1319439 A1</u>		June 18, 2003
G	011	B05B 005/16
DE 10161550	A1	June 18, 2003
N/A	000	B05B 005/16

DESIGNATED-STATES: AL AT BE BG CH CY CZ DE DK EE ES
FI FR GB GR IE IT LI LT LU

LV MC MK NL PT RO SE SI SK TR

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
US20040075848A1	N/A	
2003US-0630264	July 30, 2003	
EP 1319439A1	N/A	
2002EP-0027402	December 9, 2002	
DE 10161550A1	N/A	
2001DE-1061550	December 14, 2001	

INT-CL (IPC): B05B005/025, B05B005/16 ,
B05B012/14 , G01B011/14

ABSTRACTED-PUB-NO: EP 1319439A

BASIC-ABSTRACT:

NOVELTY - Magneto-optical sensor arrangement for detecting the position or movement of a scraper or other such moving body (12) beneath a high voltage component in a coating plant. Accordingly the polarization direction of linearly polarized light waves is changed due to the magnetic field sensed by a sensor element (15) that detects the signals of a magnetic signal element (14) attached to the moving body by use of the Faraday or Kerr effects. The resultant light signals are transmitted over an optical fiber (16) to a remote electronic analysis device.

USE - Detection of the position of components being

used in a coating plant,
e.g. a motor vehicle bodywork painting plant.

ADVANTAGE - Use of a magneto-optical sensing system ensures that electronics can be positioned well away from the high electric fields caused by the high electrostatic charging of the bodywork components.

DESCRIPTION OF DRAWING(S) - Figure shows a schematic view of the inventive arrangement for detecting the movement or position of a bodywork component.

moving body 12

magnetic signaler 14

sensor 15

optical fiber 16

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: P42 S01 S02 X25

EPI-CODES: S01-D01D5; S02-A03B4; X25-A03E2;